

CEPA

The Continental Energy Programme in Africa



Africa's energy paradox

Rich resources,
limited access.

Photo: Luke Barky, Pexels.





Photo: Alex Gamaliel, Pexels.

600 million people in Africa still lack access to electricity (IEA, 2022) – that's 43% of the population, primarily in rural areas.

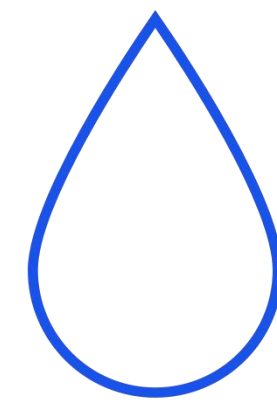
Almost 1 billion people lack access to clean cooking, contributing to deforestation and health issues.

Electricity consumption and GDP per capita remain far below global averages (less than 3,000 kWh annually and \$12,000 GDP/capita).



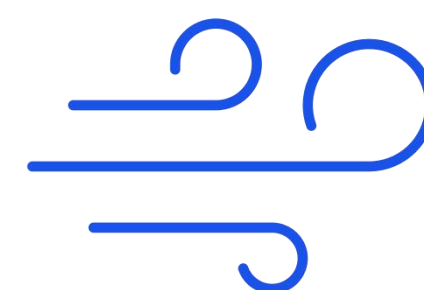
Despite this, Africa holds immense renewable energy potential

Source: IEA Energy Outlook 'Africa is rich in energy resources, yet home to most of the world's energy-poor people'.



Hydro

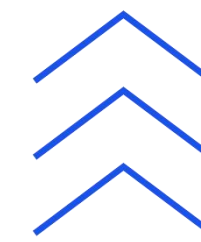
287 GW enough to cover 70% of projected peak demand by 2040



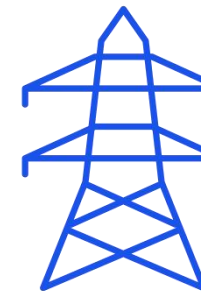
Solar and wind

7,500 GW 18 times projected demand by 2040

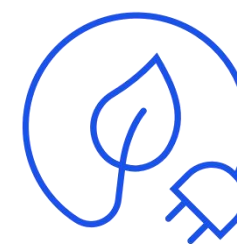
Why now? What are the opportunities?



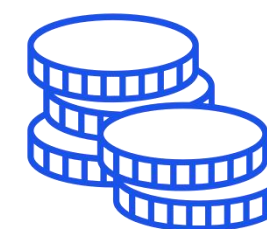
Electricity demand in Africa to triple by 2040



Generation capacity needs to rise from 266 GW (2023) → 1,218 GW by 2040



Green energy share expected to rise from 24.6% → 63.8% by 2040



Requires ~\$1.29 trillion in investments



The supports this shift

The transformational opportunity for Africa's energy future.

Photo: SINAL Multimédia, Pexels.





CEPA supports a just and inclusive energy transition

Focus on building *One Market, One Grid, One Efficiency Framework*

AfSEM (African Single Electricity Market) Enabling cross-border electricity trade and economies of scale.

CMP (Continental Power System Master Plan) Infrastructure blueprint for an interconnected Africa.

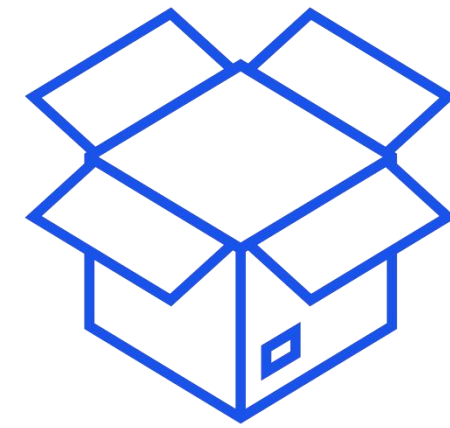
AfEES (Energy Efficiency Strategy) Increase energy productivity by 50% by 2050, reducing the need for massive new generation investment.

Photo: Nachele Nocom, Pexels.

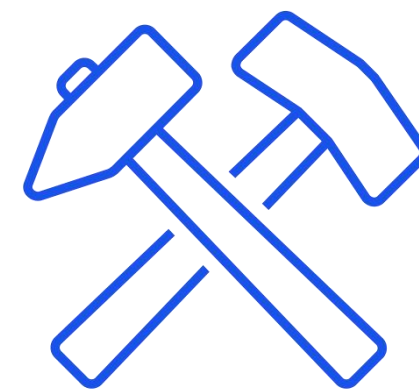


Africa's energy transition is also a global opportunity

Investment needs are huge – doubling current levels to meet climate and energy goals.



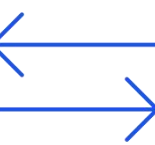
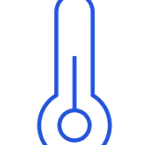
Potential for green electricity exports to Europe and the Middle East.



Participation in green hydrogen and critical minerals value chains.

The expected benefits of AfSEM, CMP and AfEES.



-  Enhanced energy access
-  Increased energy security and resilience
-  Market integration and investment opportunities
-  Technology transfer and expertise
-  Climate mitigation and adaptation
-  Economic growth and job creation
-  Pan-African cooperation and global Leadership

Photos: Kindel Media, Pexels.

The **AfSEM** African Single Electricity Market

Mission statement

To create a single, unified electricity market that enhances access to reliable, affordable and sustainable electricity for all Africans by 2040.

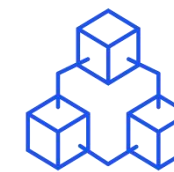
A fully operational AfSEM will be the world's largest electricity market, serving 1.3 billion people across 55 Member States of the African Union



Based on the **African Continental Free Trade Area (AfCFTA)**



Harmonises **regulatory, legal and technical frameworks**



Enables **cross-border trade** of electricity through power pools



Promotes **energy security, economic growth and climate action**

The **CMP** Continental Master Plan

Mission statement

To design and develop the long-term infrastructure plan needed to implement the AfSEM by linking national and regional power systems.

The CMP is the blueprint that turns the vision of a unified electricity market into physical reality.



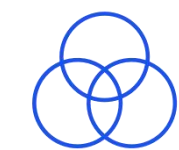
Serves as the **technical foundation** of AfSEM



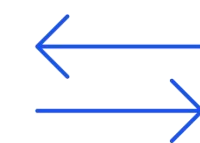
Coordinates **generation, transmission, and demand modelling** across Africa



Identifies **priority corridors** for energy investments (e.g. cross-border interconnectors)

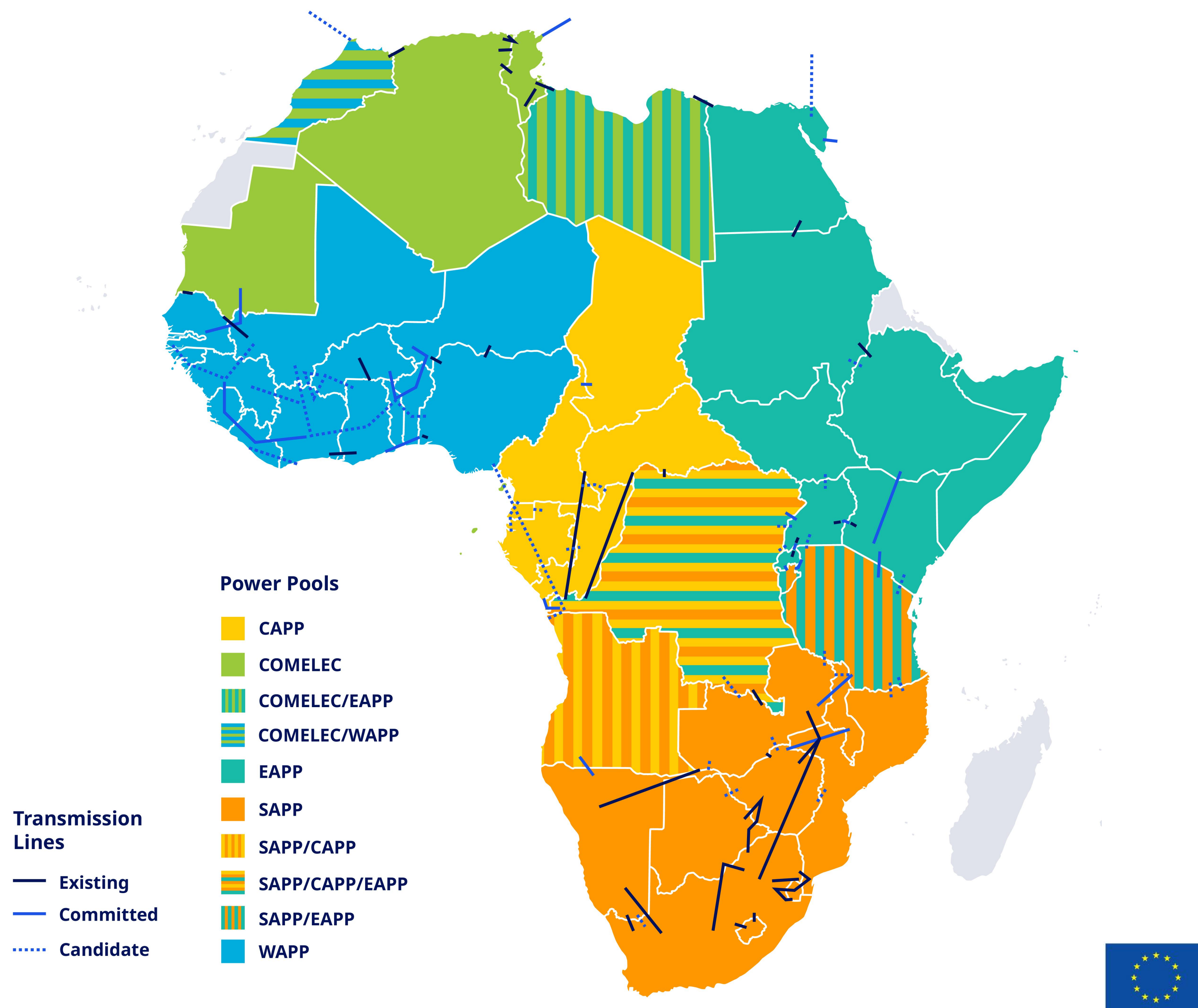


Supports **policy harmonisation** and **system resilience**



Enables **intra- and intercontinental electricity trade**

Transmission Interconnection Priorities of Power Pools by 2040



AfEES African Energy Efficiency Strategy

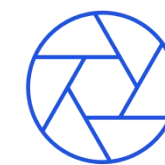
Mission statement

To establish a sustainable, efficient and inclusive energy system that benefits both the environment and the economy while ensuring universal access to energy.

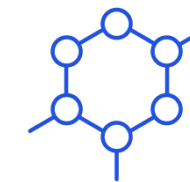
AfEES is the demand-side engine that makes Africa's green transition both affordable and achievable.



Targets a **50% increase in energy productivity by 2050**



First AU-led strategy going **beyond electricity** to cover all energy sectors



Structured around **6 sectoral roadmaps**: industry, power sector, buildings, transport, agriculture and appliances



Helps **decouple economic growth from energy consumption**



Supports climate goals, job creation, competitiveness and improved energy access

CEPA

the cross-cutting
support framework
for Africa's energy
transition.

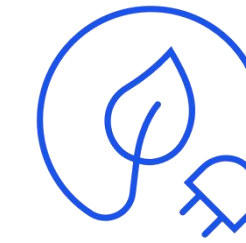
Photo: Andy Coffie, Pexels.



CEPA The Continental Energy Programme in Africa

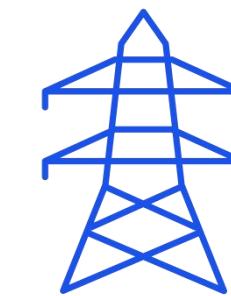
CEPA provides technical assistance, coordination support, and strategic communication for the implementation of the AfSEM, CMP, and AfEES under the leadership of the African Union Commission and its key institutions.

Objectives →



Enable the AfSEM

Regulatory harmonisation and market access for cross-border trade and renewables



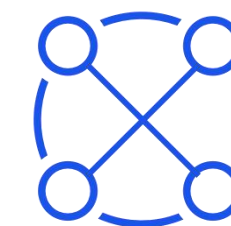
Operationalise the CMP

Prepare investments in RE generation, transmission and storage infrastructure



Implement AfEES

Policy reform, national/regional action plans, EE in all sectors



Ensure Institutional Coherence

Coordinate across RECs, Power Pools, donors, stakeholders

Achievements of the AfSEM, CMP and AfEES.

Photo: Mahmoud Yahyaoui, Pexels.



AfSEM

Key achievements



AfSEM officially launched in June 2021



Policy Paper and Roadmap validated by AU Member States (2021)



Five-Year Business Plan and Year-1 Work Plan adopted in 2023



Continental Tariff Calculation Tool developed and rolled out



Strategic Planning Process completed, including strategic objectives, evaluation mechanism and guidelines for operationalisation

What CEPA will deliver for AfSEM 2025-2028

Monitoring tools in place

AfSEM **Online Monitoring Tool** for implementation tracking

AfDB's **Electricity Regulatory Index (ERI)** (covers 43 AU Member States)

AFREC's Africa Energy Statistics Database (AESD) to **support data harmonisation**

Key actions under CEPA

Operationalise the **Single Project Coordination Unit (SPCU)** at AUC-DIE

Establish and manage 5 Thematic Working Groups (Electricity Infrastructure, Regulation and Market Operation, Investment Coordination, Renewable Energy and Clean Energy Transition and Energy Efficiency)

CEPA will also support

Regional regulatory harmonisation (tariff systems, licensing, interconnection codes)

Stakeholder capacity building and dialogue platforms

Private sector and development finance institutions **engagement for market readiness**

Public outreach and **communications strategy** for awareness and visibility

CMP

Key achievements



CMP development **led by AUDA-NEPAD**



Baseline Study completed in 2020



Continental generation and transmission modelling finalised



Synthesis report validated in September 2023



Endorsed by AU Assembly of the Heads of State and Government in February 2024



Strategic tools to be refined

Forecasting tools and spatial models

Integration of...

Aligns with AU initiatives
such as Green Mini-Grids
Strategy, New Deal on
Energy for Africa, Clean
Energy Corridors or
AfCFTA goals

Pillar II: Supporting **investment identification** and **matchmaking** with development finance institutions and private sector

Transmission corridor planning platforms



AfEES

Key achievements



AfEES Strategy Action Plan developed under AFREC and validated



6 sectoral roadmaps drafted (Industry, Power, Buildings, Transport, Agriculture, Appliances)



Development of **Minimum Energy Performance Standards (MEPS)** and labels in 36 countries



Establishment of Regional Centres for Renewable Energy and Energy Efficiency

What CEPA will deliver for AfEES 2025-2028

CEPA will support

Development and roll-out of up to **10 National Energy Efficiency Action Plans (NEEAPs)**

Implementation of sectoral actions in all 6 roadmap areas

Development of a continental **roadmap for funding EE** investments

Capacity building for national and regional stakeholders (incl. youth, local government, energy managers)

Promotion of RE-IPPs with EE-linked innovations (e.g. efficient cooling, productive uses)

CEPA will also help

Enhancement of AFREC's data collection on EE and development of indicators

Create **policy guidance tools** and **model regulations**

Foster **private sector investment** in EE technology and services

Translate continental energy productivity targets into sectoral targets

Strategic focus areas

Strengthening policy and institutional frameworks

Promoting **technology adoption** and **local innovation**

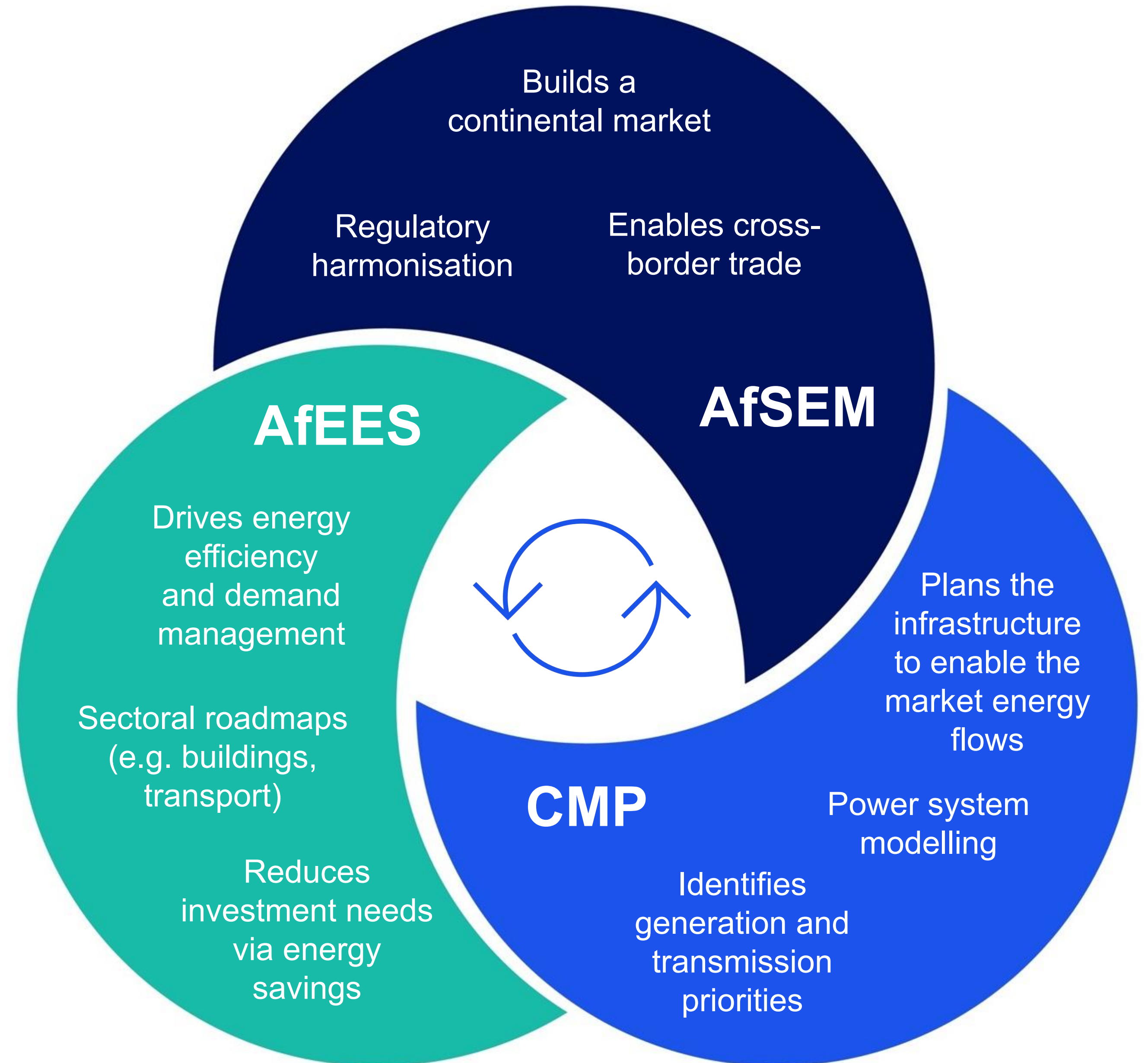
Engaging youth and women in the EE value chain

Support regional harmonisation of EE standards and targets

How AfSEM, CMP and AfEES work together

The AfSEM and its CMP component were endorsed as an Agenda 2063 flagship project at the 37th Ordinary Session of the AU's Assembly of the Heads of State and Government, held in Addis Ababa in February 2024.

The combined and coordinated work on the AfSEM, CMP and now AfEES is the cornerstone of the new **Africa-EU Green Energy Initiative** (AEGEI) as part of the Global Gateway investment package.



Alignment with global and continental goals

Framework	Relevance
SDG 7 Affordable and Clean Energy	Universal access, efficiency, renewables
AU Agenda 2063	Integrated, prosperous and sustainable Africa
AU Climate Strategy	Climate-resilient development pathways
AfCFTA	Cross-border electricity as tradable good
Paris Agreement / NDCs	Mitigates emissions via green energy and efficiency
EU-AU Strategic Partnership	Supports AfSEM and CMP under energy cooperation

CEPA strengthens Africa’s leadership in clean energy and deepens Africa-Europe collaboration.

Governance and Implementation.

Photo: Silvere Meya, Pexels.



Key Institutions



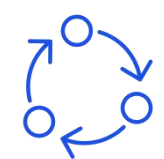
AUC-DIE Strategic oversight, coordination, and monitoring of the AfSEM



AUDA-NEPAD Leads CMP technical development and infrastructure planning



AFREC Oversees AfEES and energy data systems



RECs and Power Pools (e.g. WAPP, SAPP, EAPP, CAPP) Implement market rules and regional coordination

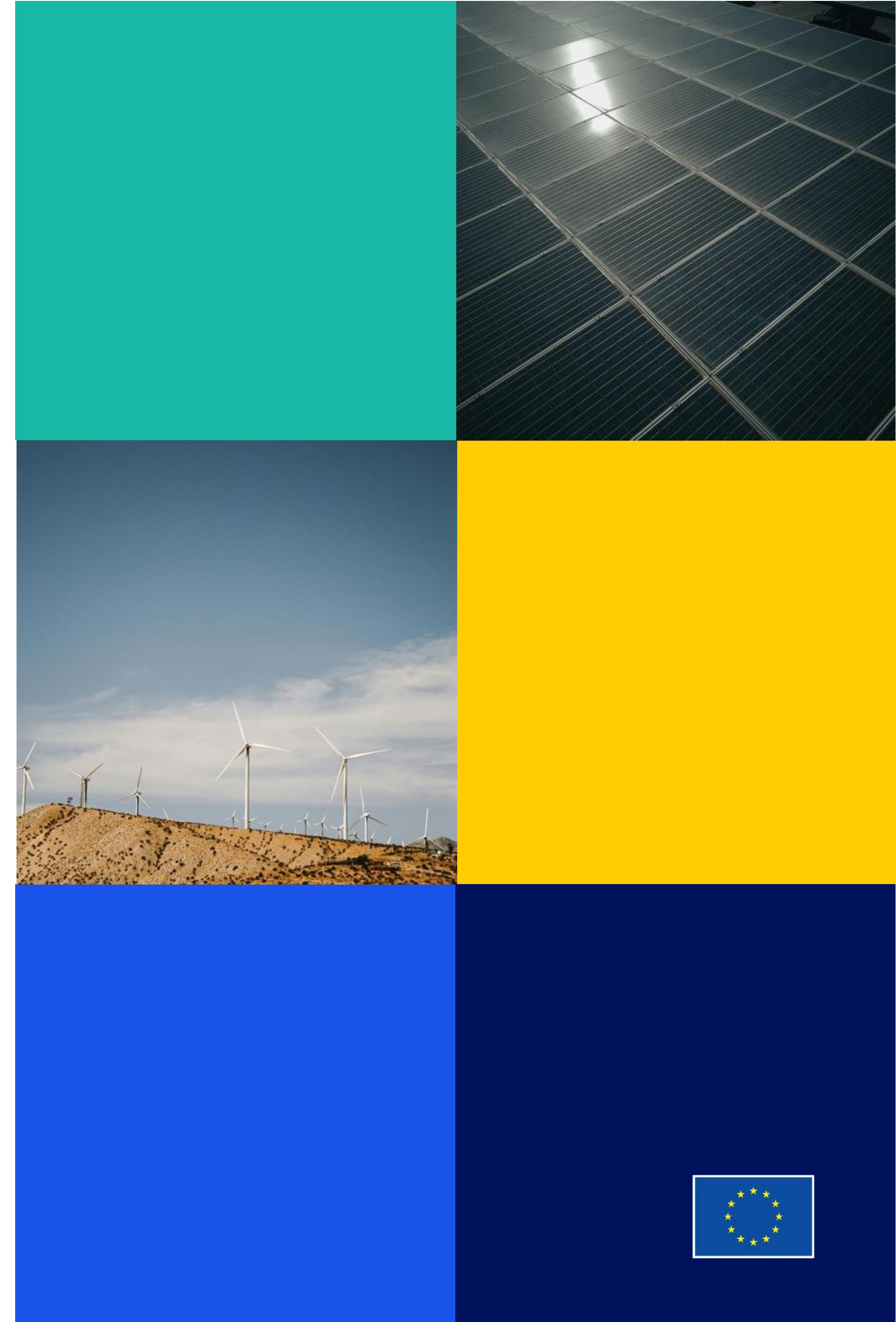
Photos: Kindel Media, Pexels.

Implementation framework

SPCU – Single Project Coordination Unit hosted by AUC-DIE

- Manages technical coordination, M&E and stakeholder alignment
- Oversees 5 working groups:
 - Electricity infrastructure
 - Regulation and market operation
 - Investment coordination
 - Renewable energy and climate mainstreaming
 - Energy efficiency and energy transition

Photos: Kindel Media, Pexels.



Implementation Roadmap



Implementation Roadmap

Short-term 2025 - 2026

CEPA launch and SPCU operational

Set up working groups (AfSEM)

CMP pre-feasibility studies

Start AfEES action plan implementation

Develop communication, capacity building and knowledge strategies

Mid-term 2026 - 2027

Regional harmonisation pilot in 10 countries (AfSEM)

Update of CMP 2026-2045 (including off-grid)

Implement 10 AfEES National Energy Efficiency Plans

Promote independent power producers of renewable energy, off-grid policy reform and carbon markets

Long-term 2027 - 2028+

Scale-up of electricity trade

Renewable energy manufacturing strategies (AfCFTA link)

CMP bankable projects mobilised

Monitoring and evaluation systems running across all 3 initiatives

Together for Africa's Just Energy Future

Photo: Al Ameen Saddiq, Pexels.



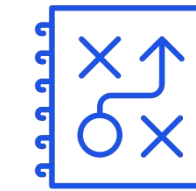
Key messages

- Africa's energy transformation is a strategic opportunity
- AfSEM, CMP and AfEES are Africa-led and globally aligned
- CEPA is a bold step towards a greener, more integrated future

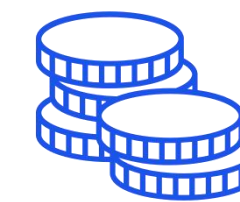
Call to action for supporters →



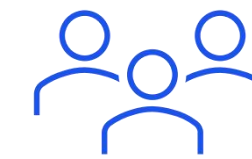
Support implementation through technical and political engagement



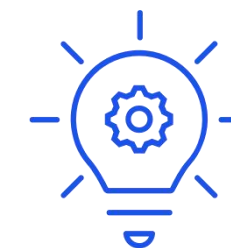
Align national strategies and policies with continental frameworks



Invest in generation, transmission, and efficiency projects



Collaborate regionally to strengthen energy markets and institutions



Share knowledge, data and innovations to accelerate progress



Together, we can power Africa's future – sustainably and inclusively.